tioned that the mestome-bundles form a different number of rows in certain species, varying from one to four as in *C. Grayii.* The rhizome shows even in its external anatomy a few characteristic differences, if we consider the stoloniferous and cespitose forms. But the internal structure gives still more and very characteristic differences, observable in the stereome, the lacunes, the endodermis, etc. As to the root, the author has observed also here a certain variation. The endodermis and the pericambium does not form a closed ring in all species, but the latter is most often interrupted by the hadrome, as described by Van Tieghem as characteristic for Xyrideæ, Eriocaulaceæ, Juncaceæ and a few other families.

The author is undoubtedly correct, when in the following chapter, where he gives an anatomical sketch of the species in question, he remarks that the characters to some extent may prove to be of specific value, but that it would be impossible from the present study to draw any conclusion as to the mutual relationship of the species described.—THEO. HOLM.

BRIEFER ARTICLES.

Cryptomitrium tenerum Austin.— Mr. O. F. Cook of Syracuse University had the kindness to send me, on my request, a specimen of the above named hepatic, which, being rather imperfectly described by its author, I have undertaken to examine thoroughly, so that the exact systematic position of this very interesting plant may with safety be established. Before going into details as to the relationship of this plant, I give a description of it, as follows :

CRYPTOMITRIUM TENERUM (Hooker) Austin.

Marchantia tenera Hooker in Kunth. Syn. plant. I. p. 45.

Duvalia tenera Gottsche: Synopsis Hepat. p. 554.

Plantae frondosae, terrestres, membranaceae, tenerae, minores, virides, arcte repentes.

Frons oblonga, repetito furcata vel monopodialiter ramosa (furca fertili brevi, altera furca solum increscente). Adsunt etiam rami steriles cum basi angustata ex apice frondis orti vel alii rami adventivi postici e costae latere orti. *Costa* pro plantae tenuitate sat crassa, angusta, in alas sensim attenuata, sub alis evanida, cellulis aequimagnis (corticalibus minoribus) aedificata, *alae* latissimae valde attenuatae, margine tenuissimo unistrato. *Stratum* aëriferum humile, cavernosum; *cavernae* amplae unistratae vacuae i. e. filis vel laminulis acces-

soriis, haud repletae, lamellis unistratis formatae. *Stomata* parum elevata, exigua, cellulis 5–6 radiatis superficialibus constantia, *poro* minimo vel fere nullo, interdum tamen majore cellulisque apice convexo-prominentibus stellaeformi. *Cellulae epidermidis* parvae, haud incrassatae.

Squamae posticae biseriatae, parvae, remotae, purpureae vel violaceae, late ovatae, varie lobatae, lobis superioribus appendiculo filiformi munitis. *Radicellae* incrassatae e basi paginaque squamarum ortae.

Inflorescentia monoica. *Androecia* flori femineo approximata, *antheridiis* in medio costae uniseriatis, saepe totam costae longitudinem occupantibus; *ostiola* conica, pallida. *Pedunculus* capitulorum ex apice costae — strato hypoporo recedente — ortus, basi apiceque nudus, longus, tenuis, bicanaliculatus, irregulariter sulcato-carinatus. *Capitula* feminea circularia, disciformia, antice leniter convexa, 5–6 costata, costae radiatae humiles papulosae, in centro capituli crassae; capitula versus marginem valde attenuata, margine ipso regulariter denseque crenata, postice plana, 5–6 locularia; *loculi* radiatim positi, capituli marginem haud attingentes, involucrati; *involucra* e margine loculorum orta, ovalia, parva, inflata, monogyna, parietibus crassis parenchymaticis, longitudinaliter fissa, labiis conniventibus quasi clausa, tempore maturitatis tenuibus apertis. *Calyptra* tenuis, basi bistrata. *Capsula* sphaerica, vix exserta, bulbo sphaerico affixa, pedunculo subnullo, operculo dehiscens, pariete tenui exannulifera, unistrata. *Elateres* longiusculi bispiri. *Sporae* brunneae, tetraëdrae, reticulatim lamellatae, dilute limbatae.

HAB.—California. Mexico (*Humboldt*).

If we compare this plant with other genera of the order of Marchantiaceæ its close affinity to *Duvalia* is undoubted; it has the same minute stomata, reduced to 5 or 6 conical cells with a very small pore in the center; in both the assimilating stratum consists of a single layer of caverns, which in Duvalia, however, have numerous secondary scales growing out of the walls and sometimes connate to the opposite wall. The postical scales in both genera are very irregularly lobed and dissected, not seldom down to the very base, so that the biseriate arrangement is somewhat obscured. The inflorescence is monoicous in both; in *Duvalia*, however, the male organs, which in Cryptomitrium stand just behind the female peduncle, spring from different branches of the plant; in both the androecia are not pedunculate and the antheridia, as in *Riccia*, are immersed in the substance of the frond; they produce small conical ostiola, which are arranged in a long row; in Duvalia they are united into a small roundish disk and surrounded by minute lanceolate scales.

The female receptacle or capitulum of both genera has a long peduncle, which springs from the end of the costa, being a continuation of the frond, of which the cavernous stratum is left behind (which in *Marchantia*, for instance, is carried up to and may be found in transverse sections of the peduncle on its antical side); in Duvalia this peduncle has but one furrow, in Cryptomitrium two; the female receptacles are very different and justify the separation of Cryptomitrium from Duvalia, being disciform in the former and almost spherical in the latter; the rays of the receptacle in Duvalia are incurved and on the postical side united into a fleshy annulus, which surrounds the end of the peduncle in form of a short vagina, while in Cryptomitrium they are stretched out and united into an uninterrupted plane and fleshy disk; in both genera, however, the involucra spring from the postical side of the substance *between* the rays, contrary to other genera, (*Grimaldia, Clevea.* and others) in which the rays themselves are developed into involucra.

There are no perianths and the capsules of both genera open with an operculum. Spores and elaters do not show any material differences.

There could be traced numerous other affinities and distinctions with regard to other Marchantiaceæ; but this would exceed the scope of this article and would involve me in a great many morphological and anatomical details, which I leave to the study of those who read German and are, therefore, able to understand Leitgeb's "Untersuchungen über die Lebermoose," the only scientific work on the development and anatomy of these plants which is very exhaustive, though our plant was not known to its author.— F. STEPHANI, *Leipzig.*

Pyrus Ioensis.— Professor A. S. Hitchcock tells me that at St. Louis Pyrus Ioensis (see American Garden, XII. 469, Aug. 1891,) is clearly distinct from *P. coronaria*. Among other differences, P. Ioensis holds its fruit longer than the other. He gives me the following note of its fruit: "Fruit about 25 mm. high and 30 mm. in diameter. Peduncle 30 mm. long, with two scars. Apple sunken at each end, where it is pubescent; color green or slightly yellowish. Lenticels rather prominent and numerous. Fruit falling October 26th."—L. H. BAILEY, *Cornell University, Ithaca, N. Y.*

EDITORIAL.

AN INTERNATIONAL CONGRESS OF BOTANISTS is an exceedingly valuable thing, provided it is really what the name implies. If, however, the real botanists, whom we would delight to honor, stay at home, and we